



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

APR 11 2014

Ms. Carol W. Farrell
President
Walter Coke, Inc.
3500 35th Avenue
Birmingham, Alabama 35207-2918

Dear Ms. Farrell:

Thank you for your February 28, 2014, letter to Ms. Heather McTeer Toney, Regional Administrator, U.S. Environmental Protection Agency Region 4, concerning the 35th Avenue Superfund Site (Site) in Birmingham, Alabama. You requested clarification regarding the EPA's sampling methodology, the information provided by the EPA to residents about their properties and the status of Walter Coke, Inc.'s (Walter Coke) Freedom of Information Act (FOIA) requests related to the Site.

The sampling methodology for the Site was formulated during the agency's efforts to negotiate an Administrative Order on Consent for sampling with Walter Coke in 2012. Those negotiations did not result in an agreement, but the EPA did use the formulated methodology during its own sampling efforts. In February 2013, in the interest of reducing the number of soil samples sieved and analyzed in the laboratory, the EPA Region 4 Emergency Response and Removal Branch requested that the Superfund Division Technical Services Section (TSS) evaluate the initial set of November and December 2012 data and make a recommendation on whether sieving and laboratory analysis were needed at the level described in the sampling plan. In response, TSS wrote a February 12, 2013, memorandum recommending that only a specific subset of samples be sieved and analyzed in the laboratory based upon the X-ray fluorescence (XRF) results.

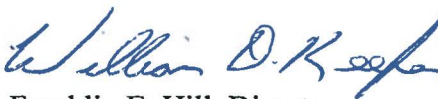
While the EPA has sampled 1,100 properties at the Site, we are prioritizing our removal efforts at this time on approximately 50 properties (Phase I Removal Properties), which all exceed the EPA's Removal Management Levels by as much as an order of magnitude. At these Phase I Removal Properties, the EPA followed the aforementioned sampling plan, as well as the TSS recommendations for XRF and laboratory protocol mentioned above. Additionally, the EPA has conducted depth delineation sampling on all Phase I Removal Properties prior to initiating the time-critical removal action, which further supports the time-critical determination for the Phase I Removal Properties.

Once a decision is made regarding which party or entity will be conducting the next phase of the removal action, they will have the responsibility to continue implementing the TSS recommendations and conduct laboratory analysis on a subset of XRF data before making the final removal decision on each of the remaining properties. At the request of the Site On-Scene Coordinator, TSS has prepared the enclosed memorandum that addresses soil sampling, the use of XRF data, and the information provided by the EPA to residents at the Site. The agency remains committed to scientific decision-making at the Site and is confident in our assessment and subsequent determination of the need for the removal action at the Phase 1 Removal Properties.

Since January 2013, the EPA has received nine FOIA requests from Kazmarek Mowrey Cloud and Laseter, LLP, on behalf of Walter Coke. A summary of those requests and their current status are also enclosed. To date, the EPA has provided Walter Coke with approximately 1,100 documents and 150,000 pages in responses. Additionally, the EPA has received numerous requests from other entities. Many of the requests, including those from Walter Coke, are broad and voluminous and have been categorized by the EPA as complex. Complex requests require extensive review of records to ensure Personally Identifiable Information is redacted from the analytical data and logbooks, Confidential Business Information submitted by the Potentially Responsible Parties is protected and enforcement and deliberative information is withheld. Walter Coke's October 18, 2013, request falls under the complex category. Our FOIA office has and is continuing to diligently review, redact and produce these documents to Walter Coke and other requesters. In an effort to expedite production, our FOIA office has released documents in a phased approach and expects the next release on April 18, 2014. We appreciate your continued cooperation. If you have additional questions, please do not hesitate to contact LouAnn Gross, Chief of Information Access Section, at 404-562-9642.

We appreciate your desire to protect and preserve the environment and hope you find this information helpful. If we may be of further assistance, please contact Marianne O. Lodin, Associate Regional Counsel, at (404) 562-9547 or Rick Jardine, On-Scene Coordinator, at (404) 562-8764.

Sincerely,


Franklin E. Hill, Director
Superfund Division

Enclosures

cc: Mr. Dan Grucza
Vice President and Sr. Counsel, Walter Coke, Inc.

Mr. Lance LeFleur
Director, Alabama Department of Environmental Management

Mr. Bob Mowrey
Attorney, Kazmarek Mowrey Cloud Laseter LLP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

March 20, 2014

MEMORANDUM

SUBJECT: Response to Request for TSS Review of 35th Ave Actions
35th Avenue Superfund Site, Birmingham, Alabama

FROM: Glenn Adams, Chief
Technical Services Section
Superfund Support Branch

HA

TO: Greg Harper, On-Scene Coordinator
Richard Jardine, On-Scene Coordinator
Emergency Response and Removal Branch

In response to your e-mail of March 14, 2014, the Technical Services Section (TSS) has tried to answer the questions you provided. We reviewed the results of lead and arsenic data comparing laboratory data to field X-ray fluorescence (XRF) data and have commented on the decisions below based on the site data.

BACKGROUND

At the start of the 35th Avenue Superfund Site (Site) soil investigation in November 2012, the sampling and analysis protocol being followed at the Site was to take XRF readings of all samples, then sieve the sample and take another XRF reading, and then send 10% of all samples to a laboratory for analysis. In February of 2013, TSS was asked to review the available data to help determine if sieving and laboratory analysis was still needed. On February 13, 2013, TSS provided On-Scene Coordinator (OSC) Jeffrey Crowley a memorandum with the following recommendations:

1. TSS recommends that any samples with XRF readings of lead between 200 mg/Kg and 600 mg/Kg should be sieved and sent to the lab for metals analysis. For arsenic, any XRF readings above 40 mg/Kg should be sieved and sent to the lab for metals analysis. The exception for arsenic can be when you have XRF lead data above 600 mg/Kg in the same sample, no further arsenic data typically would be needed because of the high lead concentrations which would drive the cleanup already.
2. TSS recommends that lead concentrations in un-sieved samples greater than 600 mg/Kg and less than 200 mg/Kg can be used without needing to be sieved or sent to the lab.
3. TSS recommends that un-sieved samples with arsenic concentrations less than 40 mg/Kg can be used without needing to be sieved or sent to the lab.

During the summer of 2013, the initial investigation of the residential soils was completed with surface soil samples taken at approximately 1100 properties. The data was screened against the December 2012 Removal Management Levels (RMLs) and the data was divided into two (2) groups. One was with detections above RMLs and the other with detections below RMLs.

Responses to OSC Questions

1. OSCs use Removal Management Levels (RMLs) as one of many tools for making a removal action decision at site, can you discuss the background of the RML and how they are used as a tools for determining a removal action?

The Regional RMLs¹ are chemical specific concentrations for individual contaminants that may be used to support the decision for EPA to undertake a removal action under CERCLA. RMLs help identify areas, contaminants, and conditions where a removal action may be appropriate. Sites where contaminant concentrations fall below RMLs are not necessarily "clean," and further action or study may be warranted under the Federal Superfund program. In addition, sites with contaminant concentrations above the RMLs may not necessarily warrant a removal action dependent upon such factors as background concentrations, the use of site-specific exposure scenarios, or other program considerations. While the purpose of RMLs is to help define areas, contaminants, and conditions that may warrant a removal action at a site, they do not cover every conceivable situation which EPA might need to address. On a case-specific basis, EPA may need to take action because of combinations of chemicals, chemical-specific factors, unusual site-specific circumstances, the finding of a public health hazard by the Agency for Toxic Substances and Disease Registry (ATSDR), ecological risk, or other case-specific considerations.

2. EPA has provided sample results to property owners in a letter. The letter compares soil sample results to the December 2012 RML values, can you discuss why the EPA RML for arsenic was updated and when the new arsenic RML was published?

EPA initiated the soil investigation work at the Site in November 2012. At that time, the RML for arsenic in residential soils was 39 mg/Kg. On December 31, 2012, an Office of Solid Waste and Emergency Response Directive (9200.1-113)² was signed that changed the default value for the relative bioavailability (RBA) of arsenic in soils. This Directive resulted in the arsenic RML value of 39 mg/Kg increasing to the current RML value of 61 mg/Kg. The new RML value for arsenic was not made public until August 2013.

3. OSCs routinely use the XRF results and/or laboratory data to make removal action decisions, is a XRF result acceptable to use for removal action decisions when laboratory data is available?

EPA uses XRF equipment in the field for many reasons. TSS has always accepted XRF data as valid for risk assessment purposes as long as there is some comparison of the field data with lab data. EPA Region 4's Science and Ecosystem Support Division (SESD) has an operating procedure (SESDPROC-107-R2)³ available that provides guidance to field personnel on the use of XRF equipment. In February 2013, TSS reviewed the XRF and laboratory data collected to evaluate the continued use of the XRF at the Site. Please see the TSS recommendations provided in the Background section of this memorandum. TSS continues to support the use of the XRF in the field at the Site and for decision making purposes. TSS recommends using the higher of the laboratory data or the XRF data to be the most protective of human health and the environment. It should be noted that in TSS's February 2013 review of paired

lead data between 200 mg/Kg and 600 mg/Kg, that the laboratory data was higher than the XRF data the majority of the time. The XRF result was above 400 mg/Kg when the laboratory concentration was below 400 mg/Kg in only a single instance.

4. EPA's mission is to protect human health and the environment, can you explain why EPA uses the higher of the two results (XRF result or laboratory data) when making a removal action decision? Would it be considered a "false positive" when the XRF result is greater than the laboratory result?

When TSS is evaluating XRF data versus laboratory data, it is understood there is a degree of uncertainty associated with both data sets due to the inherent heterogeneity of soil samples. TSS typically recommends using the higher value to make the risk management decision unless there is a site-specific reason not to or if there is evidence of rejected data based on quality assurance/quality control issues. TSS's review of the February 2013 sampling data for the Site and our recent additional review do not indicate any rejected data. We continue to recommend using the XRF data when it is higher than the laboratory data, and we recommend using the laboratory data when it is higher than the XRF data. The rationale for using the higher value is that it is the most protective of human health and the environment and allows for normal variability that can typically be seen between soil samples. TSS's recommendation to get laboratory data when the XRF reading for lead is between 200 and 600 mg/Kg and when arsenic data is above 40 mg/Kg reflects that point. When XRF data is higher or lower than laboratory data, it is not considered a false positive nor a false negative. There is uncertainty associated with any field data and different results between XRF and laboratory data as well as between duplicates are expected.

5. If the arsenic data set of XRF results are compared to the corresponding laboratory data and "an r value of 0.21" results, does this mean "it cannot be legitimately used for any purpose"?

TSS has reviewed 300+ sets of paired arsenic data (i.e., laboratory and XRF data available for the same sample) and has noted that the correlation ("Pearson's r") is low. Based on our calculations, the correlation of the unsieved data is 0.27, and the correlation of the sieved data is 0.59 for the paired arsenic data at the Site. This fact alone does not make the arsenic data unusable. The correlation statistic is a measurement of how closely the two methods would arrive at the same number for the arsenic concentration. In the case of a time-critical removal action, EPA is primarily interested in determining whether the two methods would arrive at the same decision of whether or not to take a removal action.

In the data evaluations conducted by TSS, the arsenic data shows that EPA would arrive at the same removal action decision at the arsenic sample locations in almost all cases. For example, in the evaluation of the unsieved paired arsenic data (334 samples), TSS looked at XRF data that were at or above 61 mg/Kg and had laboratory data below 61 mg/Kg and only found 4% (14 out of the 334 samples) of the data that met that criteria. Also, only 2 of that subset of samples had lead detections below 400 mg/Kg. Even though there was low correlation between XRF and lab arsenic sample concentration values, only 2 samples out of 334 samples had an XRF arsenic reading above 61 mg/Kg with a laboratory concentration below 61 mg/Kg and a lead result below 400 mg/Kg. As a result, the same removal action decision would have been made 99.4% of the time (or otherwise stated, a different decision would have been made only 0.6% of the time).

The results were similar evaluating the sieved soil data, which included 316 paired arsenic results. There were 11 XRF results that were greater than or equal to 61 mg/Kg that were in disagreement with laboratory results (i.e., laboratory data was less than 61 mg/Kg). Of this subset of data, zero (0) samples

also had lead concentrations less than 400 mg/Kg. Therefore, arsenic XRF data would not have resulted in taking an action that was not confirmed by arsenic laboratory data or was not co-located with a sample with elevated lead concentrations in any instances.

Given our evaluation of the XRF data collected to date, XRF data is useful to this investigation and decision making process, and it does not appear to result in spurious removal action decisions.

6. TSS used statistical analysis to prepare the February 2013 TSS Memorandum, can you discuss the statistical analysis behind the TSS document and why TSS recommendation is to analyze samples in the laboratory when lead between 200-600 mg/kg and arsenic over 40 mg/kg except when lead is over 600 mg/kg?

The February 2013 TSS memorandum provided for the Site should be consulted for the specifics of the technical and statistical analysis that TSS conducted at that time. Statistical analyses performed included basic statistical and graphical comparisons of the data sets. The decision to establish the laboratory analysis recommendation for XRF lead analyses between 200-600 mg/Kg was based on the simple observation that the absolute difference between the XRF and laboratory results did not exceed 200 mg/Kg in any of the sample pairs. It was recommended that results within +/- 200 mg/Kg of the 400 mg/Kg RML for lead should be analyzed by the laboratory. Lead results less than 200 mg/Kg and greater than 600 mg/Kg could be accepted with a reasonable level of certainty that the laboratory data would indicate the same decision for action or no action. The recommendation for laboratory analyses for XRF arsenic results greater than 40 mg/Kg was a discretionary recommendation based on a comparison of the paired arsenic results at that time. Subsequent analyses have supported these recommendations as being an effective basis for time-critical removal action decisions at the Site.

TSS stated that more consideration should be given to the raw data than just statistical analyses alone, therefore additional recommendations were provided in the February 2013 memorandum (see the Background section of this memorandum). It is TSS's opinion that if these recommendations are followed, appropriate scientific decisions can be made from the available data. TSS fully understands that there will always be uncertainty associated with any data, but these TSS recommendations would decrease such uncertainty.

7. Considering the data set from the 35th Ave Site and the current 35th Ave Action Memorandum which prioritized a subset of properties that have soil concentrations of lead greater than 1,200 mg/Kg, arsenic greater than 390 mg/Kg, and/or benzo(a)pyrene greater than 15 mg/Kg is EPA's decision to conduct a time-critical removal action on the subset of properties under proposed in the 35th Ave Action Memorandum appropriate?

TSS typically uses the RMLs to aid in determining if a soil removal action based on direct contact with the soils is recommended. In the case of this Site, approximately 400 properties had exceedances of the residential soil RMLs. At the time the action memorandum was being developed, TSS was consulted by OSC Rick Jardine and OSC Greg Harper as to how to prioritize the response among the approximately 400 properties. TSS provided a memorandum dated September 3, 2013, titled *35th Avenue Site Surface Soil Data Consult* which supported the OSCs' chosen removal action to minimize or eliminate the potential risks to residents that may be exposed to these higher concentrations. TSS did not state that further removal actions are not warranted, but TSS agreed that the properties with the highest concentrations where exposure may be occurring should be the highest priority for a removal action.

Please let me know if you have any additional questions or if there is anything additional you need. TSS can be available for a meeting or a conference call to discuss this information at your convenience. You can reach me at 404-562-8771 if you have any additional questions.

Attachment

References

1. <http://www.epa.gov/region04/superfund/programs/riskassess/rml/rml.html>
2. <http://www.epa.gov/superfund/bioavailability/pdfs/Transmittal%20Memo%20from%20Becki%20Clark%20to%20the%20Regions%2012-31-12.pdf>
3. <http://www.epa.gov/region4/sesd/fbqstp/Field-XRF-Measurement.pdf>

March 25, 2014

Summary of FOIA Request from Walter Coke, Inc. at the 35th Avenue Superfund Site

Request ID	Date Submitted	Brief Description	Current Status
EPA-R4-2013-002543	01/04/2013	Completed "Case Conclusion Data Sheet" prepared by EPA for the entry by EPA and Walter Coke, Inc., of the RCRA Administrative Order on Consent ("AOC"), Docket No. RCRA-04-2012-4255 (Sept. 17, 2012).	Closed on 2/5/13 – Documents provided on March 4, 2013 (Appealed, still open and being worked by OGC)
EPA-R4-2013-004030	02/21/2013	All records regarding sampling results regarding residence and property owners.	Closed – Documents Provided on April 17, 2013 and May 22, 2013
EPA-R4-2013-004052	02/28/2013	All records regarding sampling results regarding residence and property owners.	Closed as a duplicate of 2013-004030
EPA-R4-2013-005245	04/08/2013	All records regarding sampling results regarding residence and property owners.	Closed - Documents Provided on April 17, 2013 and May 22, 2013
EPA-R4-2013-005997	05/01/2013	Field notes and logbooks.	Closed - Documents Provided on May 22, 2013
EPA-R4-2013-008299	07/17/2013	All records regarding sampling results regarding residence and property owners.	Closed – August 27, 2013
EPA-R4-2013-010252	09/24/2013	All records regarding sampling results regarding residence and property owners.	Ongoing - Documents provided on 9/30/2013; 12/10/2013; 1/8/2014; 3/5/2014; and, 3/17/2014. Next production estimated release date is April 18, 2014
EPA-R4-2014-000348	10/18/2013	XRF or laboratory analysis of samples and documents describing the policies and procedures for obtaining and analyzing samples.	Ongoing - Documents provided on 9/30/2013; 12/10/2013; 1/8/2014; 3/5/2014; and, 3/17/2014. Next production estimated release date is April 18, 2014
EPA-R4-2014-000991	11/07/2013	All PRP 104(e) responses.	Ongoing - Documents provided on 9/30/2013; 12/10/2013; 1/8/2014; 3/5/2014; and, 3/17/2014. Next production estimated release date is April 18, 2014